

INEEL REPORTER

A closer look at science-based environmental management

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2001

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1-800-708-2680

Alternatives to Incineration will be Researched at the INEEL

Energy Secretary Bill Richardson formally accepted a report by a panel appointed to study alternatives to incinerations at the Idaho National Engineering and Environmental Laboratory on Jan. 8. New alternatives for treating plutonium-contaminated waste will be researched at the INEEL and other DOE sites.

Outgoing Secretary of Energy Bill Richardson publicly accepted a blue ribbon panel's report "Emerging Technological Alternatives to Incineration" in Jackson, Wyo. Speaking to more than 250 people, the secretary commended the audience for speaking out and said because of their concerns policy was being changed.

The report was prepared in response to concerns by Jackson-area residents over air quality. They were worried that a plan to burn a small portion of waste to be handled by the planned Advanced Mixed Waste Treatment Facility at the INEEL could negatively impact them.

The report, requested by Secretary Richardson, looks at different, non-incineration ways of treating wastes that have both hazardous and radioactive components, assesses the relative advantages of different technologies and makes specific recommendations for future action on the part of the DOE.

To begin developing new technological alternatives to incineration, Secretary Richardson announced several steps. He stated that funding to develop and test new technologies would be increased this year at the INEEL



Energy secretary Bill Richardson visited Jackson, Wyo. and Boise, Idaho recently to accept a report on alternatives to incineration.



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and other sites by up to \$3 million, without taking money away from other important environmental projects at the INEEL. He added that the agency's program managers would use a process to determine the appropriate amount of increase for research next year.

He identified three specific steps that the department will undertake to ensure the recommendations of the panel are acted on. First, the department would follow the research and development schedule outlined by the report. Second, the department will commit additional funding for research and development. Third, the department will broaden the opportunities for public involvement by forming a citizen's working group to report to the Environmental Management Advisory Board and to hold a national meeting later this year to bring together technical experts and interested members of the public.

Later in the day in Boise at a similar meeting, Secretary Richardson said the report would help lay the groundwork so the DOE can "ultimately treat mixed waste at INEEL, without incineration, and also meet the department's commitment to the state of Idaho to remove and dispose of that waste by 2018. Our commitment is still strong and intact."

Looking ahead, the Secretary laid out plans to transfer, by the first of March, \$400,000 to the INEEL to begin development of its new Subsurface Geosciences Laboratory and to transfer \$1 million to the INEEL to support the new role of lead field site for long-term stewardship.



Chuck Till, a member of the blue ribbon panel, and Idaho Gov. Dirk Kempthorne look on as Energy Secretary Bill Richardson addresses the future of the INEEL in Boise.

In Jackson, Wyo., Richardson met with reporters after his acceptance of the panel's report. More than 250 people attended the briefing at a local ski resort.



Treatment Facility Construction Moving Forward

Construction of the Advanced Mixed Waste Treatment Facility progresses through the winter as the DOE Blue Ribbon Panel on Incineration Alternatives issues its final report.

Construction is advancing rapidly at the Advanced Mixed Waste Treatment Facility at the Idaho National Engineering and Environmental Laboratory (INEEL). Excavation of the site began on August 22, following receipt of environmental permits. With onset of the Idaho winter, an enormous tent structure was erected over the building site to allow pouring of the foundation and concrete walls through the winter.

Pouring of the concrete slab foundation, over 7,000 cubic yards of concrete, will be completed in February. Work has also begun on the underground utilities and the cast-in-place walls.

Although construction started in 2000, the facility design and permit were modified to remove incineration capabilities following DOE's decision to convene a blue ribbon panel on incineration alternatives. Incineration was planned for approximately 2 percent of the waste, which requires some form of treatment to destroy organic compounds and PCBs prior to shipment to the disposal facility in New Mexico.

The panel issued its final report in December (see story on Page 1). BNFL Inc. is working with DOE to determine the path forward and any impacts to the project.

Completion of facility construction is projected for August 2002, four months ahead of schedule. The first shipments of transuranic mixed waste are expected to leave for the WIPP in March 2003.

The Advanced Mixed Waste Treatment Project is a cornerstone for helping meet U.S. Department of Energy commitments to remove nuclear waste from Idaho. The project represents a \$300 million private investment by BNFL Inc. under a 1996 DOE contract to finance, design, build and operate a facility to prepare 65,000 cubic meters of transuranic waste for shipment out of Idaho.

BNFL Inc. is a Fairfax, Virginia-based environmental cleanup company providing waste management, decontamination and decommissioning, and facility operations for the nation's most difficult environmental and nuclear challenges.

For More Info:

Visit our website at:
www.amwtp.com

Or contact:
AMWTP Public Relations
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Work is underway on the cast-in-place walls for the AMWTP.

Buried Hazardous Hydrogen Fluoride Gas Cylinders Near INTEC Cleaned Up

A cleanup team at the INEEL removed potentially toxic and explosive hydrogen fluoride from a 1950s-era burial site in December - 10 months ahead of schedule and \$43,000 under budget.

Using a small back hoe and non-sparking hand tools, a cleanup team removed six gas cylinders from the site located 1.5 miles northeast of INEEL's Idaho Nuclear Technology and Engineering Center. When the team started, one of the cylinders was partly exposed. They used a technology called high resolution magnetic imaging to confirm the presence of five other buried cylinders.

Another technology called portable isotopic neutron spectroscopy (PINS) verified that the exposed cylinder contained anhydrous hydrogen fluoride – a corrosive, reactive liquid acid used at INEEL during the 1950s. PINS was developed at INEEL in 1992 to identify the types of munitions inside military ordnance. INEEL adapted it for cleanup use.

During their work, the team protected themselves from the possibility that some of the cylinders were over-pressurized and might rupture with explosive force, by testing the thickness of the each cylinder's walls using an ultrasonic device, and by using controlled lifting and hoisting procedures. Hydrogen fluoride isn't combustible, but the potential existed for generation of explosive hydrogen gas. The team protected against static electric sparks by grounding the cylinders and valves, and by pumping inert gas into each cylinder's manifold system while depressurizing each cylinder.

While working, the excavation team wore fire and chemical resistant suits and ballistic shielding, and used lines that supplied fresh breathing air. Portable equipment constantly monitored downwind for the presence of toxic gases. INEEL ambulance and fire fighting crews remained on the scene during critical operations.

After depressurizing the cylinder containing hydrogen fluoride, workers installed a new valve on it and packed it in a plastic drum. INEEL plans to ship it to a commercial hazardous waste handling site in New York for permanent disposal.

After inspecting the five empty cylinders to make sure none contained hazardous materials, workers drilled holes in the cylinders to render them useless, then disposed of them at INEEL's Central Facilities Area landfill.

The aging but recently discovered cylinders all showed signs of corrosion. INEEL accelerated the remedial action to prevent the possibility of a cylinder rupturing spontaneously or through human disturbance and releasing toxic gas.

This summer, the team plans to use similar techniques to remove an estimated 50 industrial gas cylinders, buried decades ago about 300 yards west of the Idaho Nuclear Technology and Engineering Center.



Project manager Dennis Raunig with empty hydrogen fluoride cylinders excavated from a burial site near INTEC.



High-Level Waste Preferred Alternative Expected in Mid-2001

The DOE will issue its final environmental impact statement on managing high level waste and disposing of associated facilities at the INEEL this summer.

In the summer of 2001, the Department of Energy will issue its final environmental impact statement for managing high level waste and dispositioning of associated facilities at the Idaho National Engineering and Environmental Laboratory.

The Idaho High-Level Waste and Facilities Disposition Environmental Impact Statement and Record of Decision will identify the preferred method for treating 1.2 million gallons of liquid sodium-bearing waste plus newly generated liquid waste. It will also identify the preferred approach for treating 4,400 cubic meters of solid high-level waste calcine, as well as address disposition options for facilities associated with the waste. All of the high-level waste must be treated so that it is ready to be moved out of Idaho for disposal by 2035 as required by the 1995 Idaho Settlement Agreement.

Currently, DOE has identified vitrification as the preferred alternative for treating the liquid sodium-bearing waste, converting it into a glass material that will be placed in storage canisters.

In addition, DOE has identified a strategy for treating the calcine that includes enhancing waste characterization, developing calcine retrieval technologies and conducting research into separation processes. Calcine is a dry, granular material resulting from the processing of liquid radioactive waste. The research would determine if there are technical and economic advantages to partitioning radionuclides from the calcine and vitrifying the resulting high-level waste portion. A decision on whether or not to implement calcine separation is expected after 2005.

The preferred alternative states that DOE will treat the remaining liquid and cease use of the 11 underground tanks in the Tanks Farm that now store the liquid sodium-bearing waste by Dec. 31, 2012, as required under agreement with the state of Idaho. Once the final Environmental Impact Statement and Record of Decision are issued, treatment technologies for the waste will be determined.

The preferred alternative for facilities disposition is to proceed with risk-based closure of existing structures in concert with CERCLA cleanup of the area. New facilities constructed for waste processing activities will be clean-closed as required by DOE order.

Recommendations for the preferred alternative described in the study were made by a decision management team after evaluating more than 100 options for treating the sodium-bearing waste and high-level waste. The team, which included management and technical staff from DOE-Idaho, the state of Idaho, DOE Headquarters, other DOE sites and contractors, considered a number of factors, criteria and public comments before arriving at a preferred alternative that was presented for approval.





Briefly

▶ In late January or early February, the U.S. Department of Energy Off-Site Source Recovery Project Team will be sending out pre-notification letters and post cards about the Environmental Assessment being developed by DOE and the U.S. Air Force (USAF) for the removal, transport, and storage of Strontium-90 radioisotopic thermoelectric generators. These could be removed from Burnt Mountain Seismic Array Observatory in Alaska to either a designated site within the DOE complex or an Air Force trans-shipment site, if necessary. Potential DOE storage sites include: Hanford Site, WA; Idaho National Engineering and Environmental Laboratory, ID; Kansas City Plant, MO; Los Alamos National Laboratory or Sandia National Laboratories, NM; Nevada Test Site, NV; Oak Ridge Reservation, TN; Pantex Plant, TX; or Savannah River Site, SC. Comments and requests for further information should be addressed to Mr. Robert A. Campbell, EM-22, Office of Technical Program Integration, U.S. Department of Energy, e-mail: robert.campbell@em.doe.gov; (678) 585-9565 or to Major Deborah Determan, Air Staff Action Officer, U.S. Air Force, e-mail: deborah.determan@pentagon.af.mil; (703) 695-1358.

▶ The DOE's Idaho Operations Office is preparing an Environmental Assessment for the Deactivation, Decommissioning, and Dismantlement of a portion of a nuclear facility, CPP-603, located at the INEEL's Idaho Nuclear Technology and Engineering Center. The proposed action would deactivate the CPP-603A north, middle, and south spent nuclear fuel storage basins, referred to as the Fuel Receiving and Storage Facility. In addition, the action would dismantle the (nuclear) Fuel Element Cutting Facility, the North-South Truck Bay superstructure, equipment associated with spent nuclear fuel storage operations, the CPP-648 (Sludge Tank Control House) and CPP-642 (Hot Waste Pumphouse) superstructures, and the Radioactive Solid and Liquid Waste Storage Vessel and associated equipment.

▶ Since 1996, vapor vacuum extraction units have removed and destroyed more than 82,000 pounds of volatile organic compounds (VOCs) from the ground at the INEEL's Radioactive Waste Management Complex. This winter, INEEL is installing a new VOC vapor vacuum extraction unit. Like the original units, this new catalytic oxidation unit is flameless and results in the release of carbon dioxide, water and chlorine. It was selected to meet more stringent air quality standards promulgated after the 1995 record of decision was signed for the VOC remediation.



Get Involved

Citizens are encouraged to get involved in decision-making at the INEEL by reviewing and commenting on documents, attending public meetings, and requesting briefings or tours. Information about these public involvement activities can be obtained through:

Target Mailing Lists

Mailing lists are continually updated so interested citizens and groups can automatically receive general or specific INEEL information (electronically or through U.S. Mail). You can be added to mailing lists by calling the INEEL toll-free number.

Toll-Free Phone Number

To obtain specific documents or other information, request a speaker or briefing on a particular topic, inquire about public meetings or public comment periods, or schedule a tour of INEEL, call the INEEL toll-free number at 1 (800) 708-2680.

Videos/Instructional Materials

Videos and brochures are available on a variety of subjects including the Snake River Plain Aquifer, waste management, and general INEEL history. To request these items, call the INEEL toll-free number.

Internet

The INEEL Home Page is available at <http://www.inel.gov>. Specific INEEL environmental information is available at <http://environment.inel.gov>. The INEEL Administrative Record is available at <http://ar.inel.gov/home.html>.

Information Repositories

DOE maintains three information repositories throughout Idaho. The Boise State University repository will be available in October. Information repositories are collections of documents that provide detail and backup information on INEEL cleanup projects.

INEEL Technical Library
DOE Public Reading Room
1776 Science Center Drive
Idaho Falls, ID 83415

Albertson Library
Boise State University
1910 University Drive
Boise, ID 83725

University of Idaho Library
University of Idaho Campus
434 2nd Street
Moscow, ID 83843

INEEL Idaho Falls Office

The INEEL Community Relations Office is located in Idaho Falls and can provide information and briefings on environmental management topics. Call the INEEL Community Relations Office at (208) 526-8484, or call the INEEL toll-free number.

INEEL Boise Regional Office

An INEEL Regional Office is located in Boise to provide information and other resources for those living in the western portion of the state. The office is located at 805 West Idaho Street, Suite 301, Boise, Idaho 83702, or call 208-334-9572.

INEEL Jackson, Wyoming Office

An INEEL Regional Office is located at 310A. E. Pearl Avenue to provide information and other resources for those living in Wyoming. Call the office at (307) 732-2990.



1-800-
708-2680





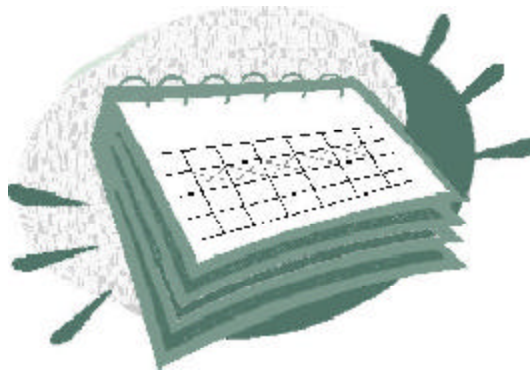
Calendar

February

► February 12: Public meeting for permit modifications on the Waste Reduction Operations Complex Resource Conservation and Recovery Act permit, Idaho Falls Public Library , 435 Broadway, Idaho Falls, ID 6-8 p.m.

March

► March 20-21: INEEL Citizens Advisory Board meeting, Doubletree Downtown, Boise, Idaho.



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